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ROSE- ★ Q32 87-137310/20 ★ EP -222-184-A  
Stitched valve bag and method of manufacture - designed to be  
manufactured by folding thus eliminating waste and improving  
strength

ROSENLEW WOY AB 17.10.85-FI-004058

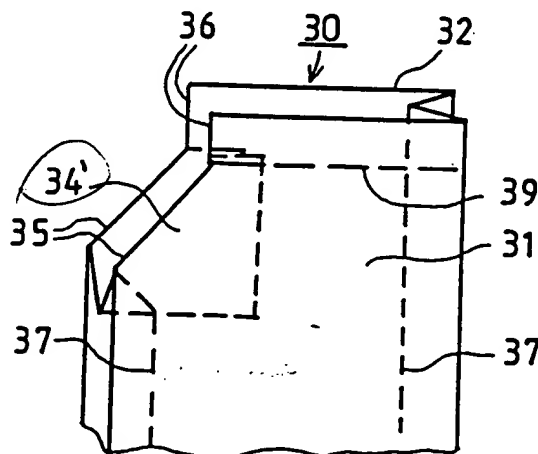
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13.10.86 as 114154 (1775RTG) (E) FR-971464 GB1239054  
GB1588042 E(AT BE CH DE FR GB IT LI LU NL SE)

The stitched valve bag (30) has seams at both ends, has at one corner  
a valve member (34) with valve opening. The valve member is  
formed by making incision (36) in the longitudinal direction of the  
mantle part (31) and at end (32), and folding the corner along line (35).  
The bag ends (32) is folded double for improved strength.

A similar method of manufacture is used to form bag from tubular  
material.

USE/ADVANTAGE - For valve bag manufacture. Reduced  
material waste in manufacture, easy to manufacture by mechanical  
means and increased strength at valve end. (9pp Dwg.No.4B/5)  
N87-102908



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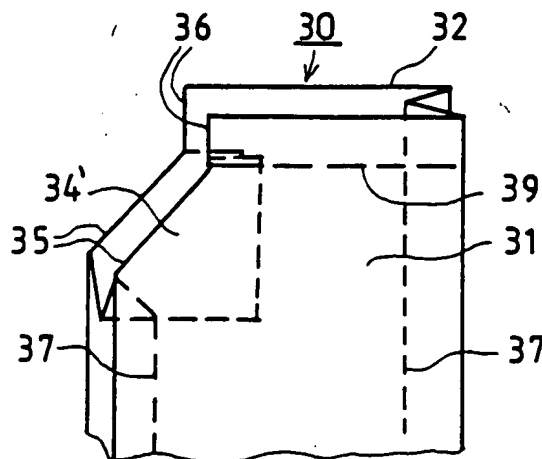
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(54) Stitched valve bag and procedure for making same.

(57) The invention concerns a stitched valve bag and a procedure for manufacturing stitched valve bags from a material web run in tubular form. The valve bag (30) is provided at both ends with a stitched seam (38), and the bag (30) has in one corner a valve member (34') constituting a valve opening. In the longitudinal direction of the mantle part (31) of the bag (30) has at one end (32) at a distance from the corner of the bag been made an incision (36) longitudinal to the mantle (31). The portion between the incision (36) and the corner has been folded to become a valve member (34'), along a folding line - (35) extending substantially from the bottom of the incision (36) obliquely to the margin of the mantle part (31). On the side beyond the incision (36) the bag end (32) has for improved strength been folded double before stitching said end of the bag.



**FIG. 4B**

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economy are also achieved since the material can be more completely utilized. The bag manufactured by the procedure of the invention has greater strength than those of prior art because the material of the bag's valve end, which used to be discarded, is now made use of towards improving the strength of the bag's valve end. Since the stitched seam of the valve end will have good strength, the bag can be made using even one single material course (several courses may naturally equally be used). When two material courses are used, the inner course is for instance paper, and the outer, so-called reinforcing material is for instance a course woven of some plastic material. Furthermore, it is possible by changing the length of the valve to produce by the procedure of the invention a bag with better tightness than by any method of prior art.

The invention is described in detail in the following, referring to some advantageous embodiments of the invention, presented in the figures of the attached drawing, but to which the invention is not meant to be exclusively confined.

Figs 1A and 1B present, as seen from above, a paper bag of prior art.

Figs 2A and 2B present, as seen from above, two alternative embodiments of the material web associated with the manufacturing of the bag depicted in Figs 1A and 1B.

Figs 3A and 3B present, as seen from above, another bag of prior art.

Fig. 4A presents, as seen from above, the valve end of a bag according to the invention, prior to folding the corner of the valve member.

Fig. 4B presents, as seen from above, the valve end of a bag according to the invention, with the corner of the valve member folded.

Fig. 4C presents, as seen from above, the valve end of a bag according to the invention, fully stitched.

Fig. 5 presents, as seen from above, the material web of which the bag of the invention is made.

The valve bag of prior art, presented in Fig. 1A, has been generally denoted with reference numeral 10. Reference numerals equivalent to those in Fig. 1A are used in Figs 1B, 2A and 2B. The valve bag 10 comprises a mantle part 11, an upper part 12 and a lower part 13. In one corner of the upper part 12 of the bag 10 has been formed a valve member 14. In Fig. 1A, the bag 10 is shown in the stage where it has already been cut, but the valve member 14 has not been folded. In Fig. 1B the valve member 14 is shown, folded along the folding lines 15. The folds of the valve bag 10 carry the reference numeral 17. In Fig. 1B has also been indicated, with interrupted lines, the stitched seam 18, with which the upper part 12 of the bag is

stitched closed after the valve member 14 has been folded. Of course, a similar stitched seam 18 is also applied in the lower part 13 of the bag. The mantle 11 of such a bag 10 of prior art usually consists of a plurality of material thicknesses, e.g. of the triple material thickness.

The bag 10 of prior art, described above, can be made on a material web e.g. in two ways, as depicted in Figs 2A and 2B. As shown in Fig. 2A, the bag 10 may be made in that the full-width paper web is run to tubular shape of desired dimension, by cutting the web along the dotted lines indicated with reference numeral 13a, and which go to form the lower part 13 of the bag 10. Next, in order to form the valve member 14, an incision 16 running in the machine direction, i.e., parallel to the mantle part 11, is made at one end of the bag blank, this incision extending up to the transversal line 12a, marked with a dotted line, and this forming the upper part 12 of the bag 10. Along said line 12a is thereafter made a cross-cut, whereby the waste piece 19 is removed from the bag blank. The valve member 14 is then folded along the folding lines 15, and the upper part 12 and lower part 13 of the bag are stitched closed with the stitched seam 18. In practice, the cuts 13a, 12a and 16 are often made in one work step.

In the manufacturing mode of Fig. 2B, the waste piece 19 is smaller of its size than in the procedure of Fig. 2A, but implementation of the procedure of Fig. 2B is more difficult. In the procedure of Fig. 2B, the paper web may be cross-cut, for forming the bag 10, only at one end of the bag 10 with a transversal cut 13b. It is thus understood that this cut 13b will produce, on the material web, the lower parts 13 of two consecutive bags. On a material web as shown in Fig. 2B, the upper parts 12 of two consecutive bags face each other and therefore the cut 12b cannot be carried at one go right across the material web.

Another valve bag of prior art, depicted in Figs 3A and 3B, has been generally denoted with reference numeral 20. The bag 20 comprises a mantle part 21, an upper part 22 and a lower part, not depicted in the figure. The folds of the bag 20 carry the reference numeral 27. A valve member 24 is formed in one corner of the upper part 22 by folding one corner of the upper part 22 along the folding lines 25, whereafter the bag 20 is ready for being stitched. In Fig. 3B has been indicated the stitched seam 28, and a similar stitched seam is of course also provided in the lower part of the bag 20. The bag 20 according to Figs 3A and 3B is rather much simpler to manufacture than the bag 10 of Figs 1A-2B. The bag 20 according to this embodiment is manufactured by cutting the material web to tubular lengths of desired dimension, whereby the bag blank in tubular form comprises a

said incision (36) and said corner having been folded to become a valve member (34'), along a folding line (35) extending substantially from the bottom of said incision (36) obliquely to the margin of the mantle part (31), and that on the side beyond said incision (36) the bag end (32) has for improved strength been folded double before stitching said end of the bag.

2. Procedure for manufacturing stitched valve bags of a material web run in tubular form, said bags (30) being provided at both ends with a stitched seam (38) and said bags (30) having in one corner a valve member (34') constituting a valve opening, characterized in that said material web is cut up into bag blanks of given length and comprising a mantle part (31) open at both ends - (32,33), that at one open end (32) of the mantle

part (31) at a distance from the corner of the bag blank is made in the machine direction, i.e., in the longitudinal direction of the mantle (31), an incision (36) which delimits a valve blank (34) from said end of the bag blank, that folding of the valve blank - (34) to become the valve member (34') and double folding of said end (32) of the bag blank are performed at the distance from said end (32) of the bag blank determined by said incision (36), and that stitching of both ends of the bag blank is carried out, whereby a completed bag (30) is obtained.

3. Procedure according to claim 2, characterized in that the length of the valve member (34') on the valve bag (30) is adjusted by changing the length of the incision (36).

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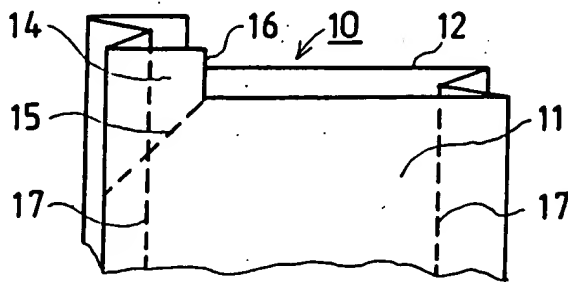


FIG. 1A

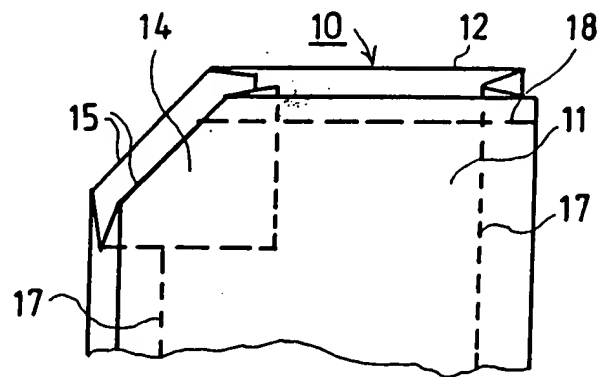


FIG. 1B

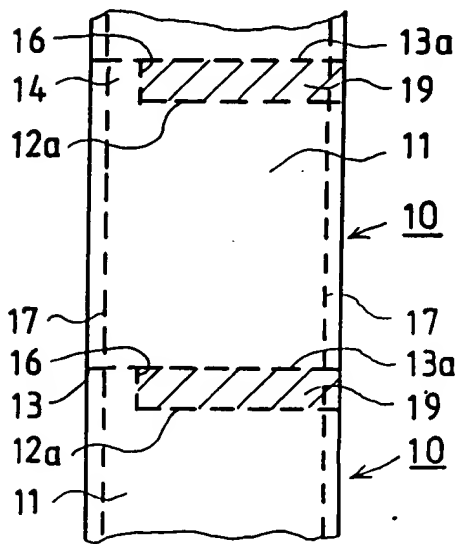


FIG. 2A

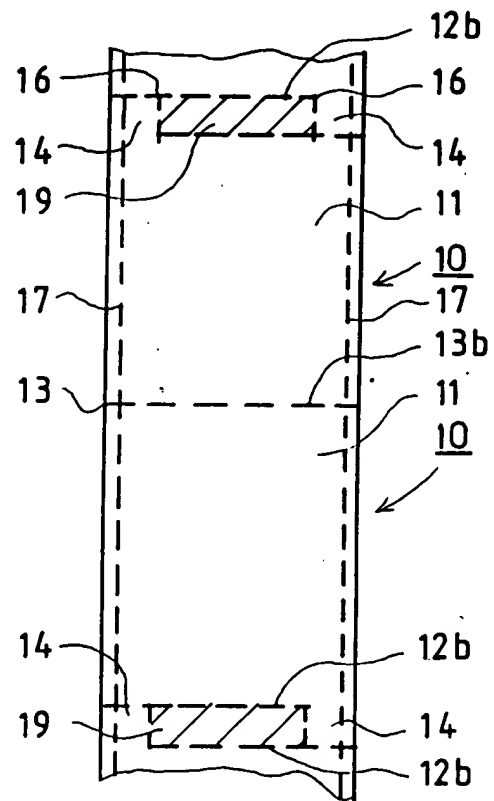


FIG. 2B

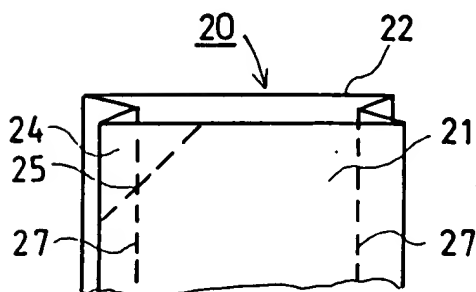


FIG. 3A

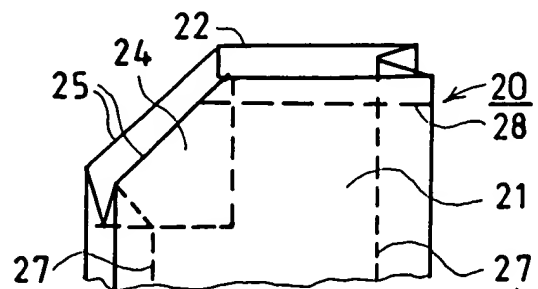


FIG. 3B

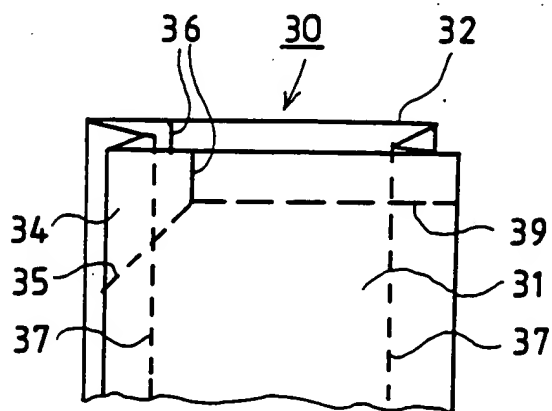


FIG. 4A

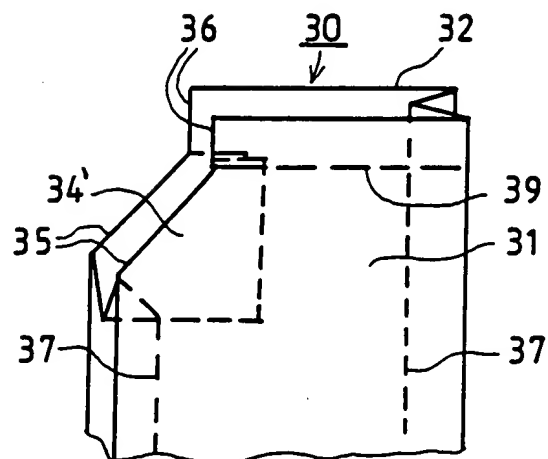


FIG. 4B

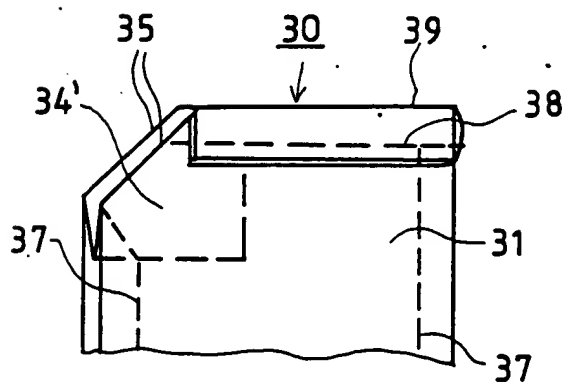


FIG. 4C

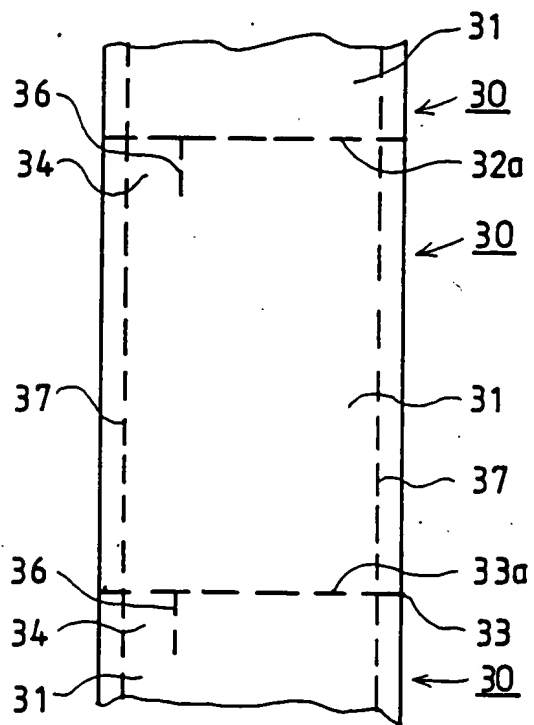


FIG. 5



EP 86 11 4154

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	FR-A- 971 464 (FRIXIONE) * complete document *	1,2	B 65 D 30/24
A	--- GB-A-1 239 054 (BRITISH VISQUEEN) * page 2, lines 3-40, 66-70; fig- ures 1-3 *	1-3	
A	--- GB-A-1 588 042 (SHOWA SEITAI) * page 4, lines 61-73; figure 14B * -----	1,2	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 65 D 30/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 13-01-1987	Examiner SIMON J J P
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